



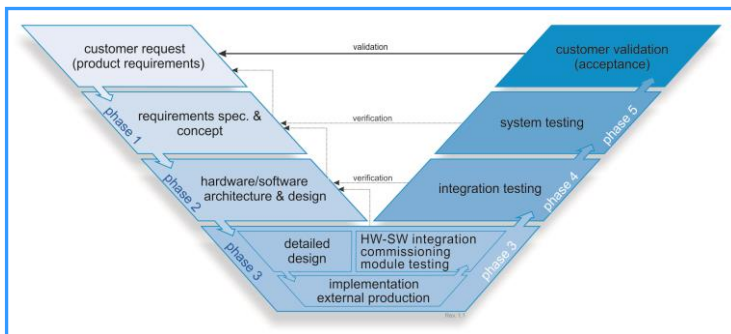
Embedded software development: Customers and quality come first!

Overview

Embedded software is found in nearly every automation component today. Reliability, minimizing susceptibility to errors, simple maintenance and the current standards situation pose a great challenge for device manufacturers.

MESCO offers technology expertise for automation technology, measurement technology and field bus communication with expertise covering software development, microcontrollers, stacks and operating systems. Quality plays a dominant role at MESCO. This is reflected in the software development process and quality measures.

Process tailoring enables flexible collaboration with the customer and implementation ranging from simple projects to those with SIL 3 requirements.



Software development at MESCO

MESCO develops embedded firmware according to the V-model.

After requirements are determined and analyzed, the architecture is created and discussed with the customer. The modular design which results contains descriptions and diagrams (in UML notation, for example). A test specification facilitates documentable coverage of the testing and thus high quality. Tool-based statistical code analysis and automated unit tests are used during firmware verification in order to identify deficiencies in the firmware prior to integration and thus save valuable time.

MESCO delivers the structured, documented source code along with the development documentation.

Services

- Requirements, architecture and design
- Development of encapsulated software modules
- Software applications and integration in customer hardware and software
- **Functionally reliable software, certifiable up to SIL 3 (IEC 61508)**
- Communication/Field bus stacks
- Driver development

Use of tools for

- Developing requirements
- Design (CASE tooling, UML 2)
- Static code analysis
- Unit tests

Microcontroller

- Atmel
- Infineon
- Microchip
- Renesas / NEC
- ST Microelectronics
- Texas Instruments
- ARM
- DSPs: Texas Instruments, Analog Devices

Operating systems

- eCos
- embOS
- SCIOPTA
- VxWorks

Application examples

- Sensor/actuator applications
- Remote I/O firmware
- Device firmware, including stack for field bus communication
- SIL 3 software for motion control
- Fast data processing (50 Mbit/s) for equipment monitoring
- Embedded software for measuring transducers
- Field bus option boards
- Safety modules